## REMARKS

Claims 1-18 and 20-25 were pending prior to entry of the present amendment. Claims 1 and 8 were amended, and claim 4 was cancelled. The claims pending after entry of the present amendment are therefore claims 1-3, 5-18, and 20-25. The amendments add no new matter. The claims have been amended solely in an effort to expedite issuance of the presently-claimed subject matter. Amendment of the claims is not to be construed as Applicant's agreement with the stated grounds for rejection, and Applicant specifically reserves the right to pursue cancelled subject matter in a continuation or divisional patent application.

### Rejection under 35 U.S.C. 112

Claims 8-18 and 23-24 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failling to particularly point out and distinctly claim the subject matter in which the Applicants regards as the invention.

The Examiner stated that the portion of Claim 8 which states "said free psoralen having been exposed to light having a wavelength and in an amount sufficient to cause a pathogen to be inactivated by said psoralen" is indefinite because it was not possible to distiguish whether "in an amount sufficient" refered to the light or to psolaren. The Applicants have amended claim 8 changing "in an amount sufficient" to "in an amount of light sufficient" to clarify that "amount" refers to light. The Examiner also stated it is not clear what applicant intends an "amount" of light to be, e.g. radian, joules, etc. Applicant submits that the claim language already specifies what the amount is in functional terms, i.e. it is in an amount sufficient that it would cause a psoralen to covalently bind to a nucleic acid of e.g. a pathogen that may be present in the biological fluid. It is therefore not necessary to include a specific measure of the amount of light in the claim to make the claim definite under 35 U.S.C. Sec. 112 para. 2, since the measure is already present in functional terms. Accordingly, the Applcants respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. Sec. 112 second paragraph.

**Rejections under 35 U.S.C. 103**

Claims 1-6, 8-11, 13-14, 16-18, 20-23 and 25 stand rejected under 35 U.S.C. 103(a) as being unpantentable over Foley, U.S. Patent 6,319,662, in view of Davankov, U.S. Patent 3,729,457.

The rejection states in part that "Davankov does not teach 'prewetting' his resin, and in fact, teaches that his resins may be rigid microporous structures (col. 3 line 60-63), i.e., resins which do not swell or need 'prewetting' to use." Applicant submits that the rejection erroneously equates rigidity with lack of swelling and no need for prewetting, and therefore the rejection is based on an incorrect premise.

Applicant previously submitted the reference "Structure And Properties Of Hypercrosslinked Polystyrene - First Representative Of A New Class Of Polymer Networks" by V.A. Davankov and M.P. Tsyurupa. Page 34 of the article, reproduced on the next page, indicates that a rigid polymer may swell. "Hypercrosslinked networks have a unique ability to swell not only in thermodynamically good solvents of the toluene type, but also in the precipitating media for linear polystyrene: i.e., in aliphatic alcohols and hydrocarbons, water (21), in liquid argon at -196°C (22), in gaseous nitrogen and $CO_2$ at room temperature (23) in perfluorooctane (24), etc. Figures 5 and 6 show the corresponding examples. From Fig. 6 it is seen that the rigidity of hypercrosslinked networks exerts a noticeable influence on their swelling. Thus, the most rigid networks produced with CMM begin to swell in hexane at a lower degree of crosslinking than those crosslinked by MCDE. On the contrary, the networks crosslinked by flexible DPB bridges have altogether no ability to swell in hydrocarbon or other non-solvents of polystyrene." (emphasis added)

most the same rate. This can explain both the absence of a clear-cut minimum in the curve of the dependence of the swelling of additionally crosslinked granules and the degree of their crosslinking, and the lower total value of their swelling. (A smaller swellability of these beads is certainly also facilitated by the factor of pre-stress in a certain fraction of chains of the initial copolymer).

*Swelling in non-solvents*

Hypercrosslinked networks have a unique ability to swell not only in thermodynamically good solvents of the toluene type, but also in the precipitating media for linear polystyrene: i.e., in aliphatic alcohols and hydrocarbons, water [21], in liquid argon at −196°C [22], in gaseous nitrogen and $CO_2$ at room temperature [23] in perfluorooctane [24], etc. Figures 5 and 6 show the corresponding examples.

From Fig. 6 it is seen that the rigidity of hypercrosslinked networks exerts a noticeable influence on their swelling. Thus, the most

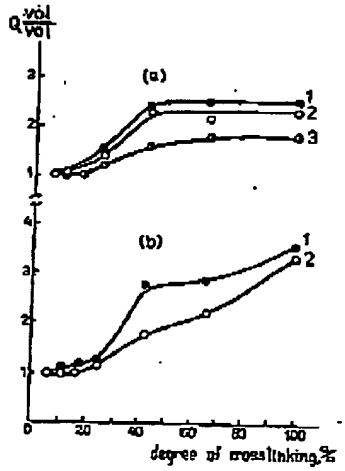


Fig. 5. An increase in the volume of networks based on linear polystyrene crosslinked by XDC (a) and DMF (b) in hexane (1), methanol (2) and water (3), depending on the degree of crosslinking.

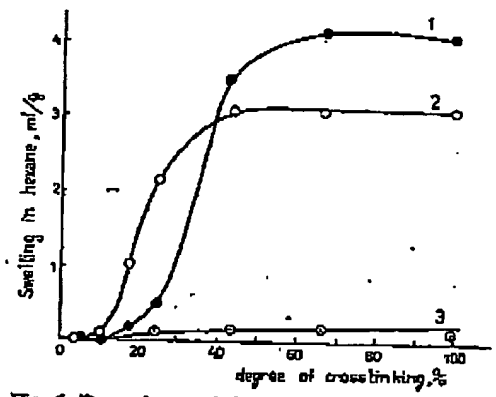


Fig. 6. Dependence of the swelling in hexane for networks based on linear polystyrene crosslinked by MCDE (1), CMM (2) and DPB (3) on the degree of crosslinking.

rigid networks produced with CMM begin to swell in hexane at a lower degree of crosslinking than those crosslinked by MCDE. On the contrary, the networks crosslinked by flexible DPB bridges have altogether no ability to swell in hydrocarbon or other non-solvents of polystyrene.

Quite obviously, for the swelling of the network it is necessary that the energy of the interaction of polymer chains with the solvent should be higher than the energy of the interaction between polymer chains, and the intermolecular interactions in the liquid. The fact that hypercrosslinked networks swell in solvents which poorly solvate linear chains of polystyrene reflects the low energy of interchain interactions in a loosely hypercrosslinked network.

This conclusion also follows clearly from the comparison of the heats of interaction of toluene and methanol with polystyrene networks of different physical structure (Table 2) [25]. Gel copolymers of styrene with DVB were obtained in the absence of a solvent. The interaction between polymer chains in these standard structures is high, and only a thermodynamically good solvent, such as

Davankov et al.'s discussion in this article indicates that one cannot conclude from the text cited at col. 3 lines 60-64 of Davankov et al.'s U.S. Pat. No. 3,729,457 that a rigid hypercrosslinked polymer will not swell and will not need prewetting. Davankov et al. state in their article that the most rigid polymer swells more than one having flexible bridges.

One of ordinary skill would therefore not conclude from Davankov et al.'s U.S. Pat. No. 3,729,457 that a rigid hypercrosslinked polymer would not swell or that this polymer would not require prewetting. Applicant therefore submits that, even if one were to combine the subject matter taught by Foley et al. with that taught by Davankov 3,729,457, one of ordinary skill is not led to the subject matter of independent claims 1 and 8. The references, even when combined, do not teach all of the features of the presently claimed methods.

Further, Applicant submits that there is no motivation to combine Foley et al. with Davankov et al. Nothing in Foley et al. points to a problem to be solved that would motivate one of ordinary skill to seek out what is taught in Davankov 3,729,457 from any other of a myriad number of references discussing adsorbent materials.

In view of the above, Applicant respectfully requests withdrawal of the rejection of claims 1-6, 8-11, 13-14, 16-18, 20-23 and 25.

The rejection of Claims 7 and 15 under 35 U.S.C. 103(a) as being upantentable over Foley, U.S. Patent 6,319,662, in view of Davankov, U.S. Patent 3,729,457, as applied to claims 1-6, 8-11, 13-14, 16-18, 20-23 and 25 above, and in view of Wollowitz, U.S. patent 5,593,823 and claims 12 and 24 under 35 U.S.C. 103(a) as being upantentable over Foley, U.S. Patent 6,319,662, in view of Davankov, U.S. Patent 3,729,457, as applied to claims 1-6, 8-11, 13-14, 16-18, 20-23 and 25 above, and in view of Hearst, U.S. Patent 4,196,281 are respectfully traversed. These rejections rely on the rejection of claims 1-6, 8-11, 13-14, 16-18, 20-23 and 25 over Foley, U.S. Patent 6,319,662, in view of Davankov, U.S. Patent 3,729,457, which, as discussed above, do not disclose the claimed subject matter. Accordingly, the Applicants respectfully request that these rejections be withdrawn.

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**Provisional Double Patenting Rejections**

Grouped claims (8 and 16), 10, 11, (12 and 17), (13 and 17), (14 and 18), and 15 stand provisionally rejected under the judicially created doctrine of double patenting to copending U.S. Patent Application No. 10/051,976. Claims 9, 19-20, and 23-24 stand provisionally rejected under the judicially created doctrine of double patenting to copending U.S. Patent Application No. 10/051,976.

Applicant notes the provisional nature of the double patenting rejection and submits that the issue be addressed at a later date should 10/051,976 be otherwise allowable for issuance during the pendency of the present application. Applicant respectfully brings to the Examiner's attention that the Office appears to be acting inconsistently between the present application and 10/051,976 in the Office's restriction practice and double-patenting rejections. Subject matter similar to the presently-claimed subject matter was restricted by the Examiner of 10/051,976 as being independent and distinct from other claims subsequently elected for prosecution in 10/051,976. It therefore appears to be inconsistent for the Office to state that the restricted subject matter is obvious under the judicially created doctrine of double patenting.

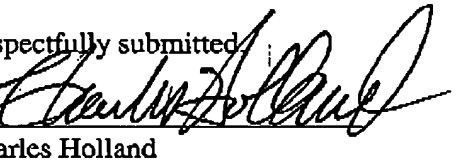
## CONCLUSION

In view of the above comments, each of the presently pending claims in this application is believed to define allowable subject matter. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 282172000810. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: October 25, 2005

Respectfully submitted,

By 

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